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## ABSTRACT

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E1 The present invention features molecules that relate to SYNGAP (Synaptic GTPase Activating Protein), an excitatory synapse protein that has been found to bind synaptic proteins and modulate signal transduction. In one aspect, the invention provides isolated polynucleotides that encode SYNGAP or fragments or derivatives thereof. Further provided are SYNGAP or SYNGAP-related polypeptides encoded by the polynucleotides. In another aspect, the invention provides immunological molecules that are capable of binding the polypeptides. Additionally provided are methods for using the molecules of this invention, e.g., to treat or prevent a disorder mediated by SYNGAP. The invention also provides screening assays for detecting compounds useful in the diagnosis or treatment of disorders impacted by SYNGAP.